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first tasks of the Standing Committee was to find an agency by which the investigation could be made promptly and intelligently. It selected the National Bureau of Economic Research as best equipped for this particular task.

5. The National Bureau of Economic Research, chartered in 1920 to conduct quantitative investigations into subjects that affect public welfare, is controlled by 19 directors, chosen both for the diversity of their social points of view and for their common belief in basing policies upon accurate knowledge of facts. It has drawn its financial support so far mainly, though not exclusively, from grants made by the Commonwealth Fund and the Carnegie Corporation. Its research staff includes men who have long been students of the business cycle.

6. Agencies Which Will Coöperate.—The preceding review of the successive steps in the development of the anti-waste campaign show in part, but only in part, how numerous and how able are the various agencies whose help can be secured to effect the object of the present campaign. In addition to the Committee on Waste of the Federated American Engineering Societies, the staff of the Department of Commerce, the members of the Conference on Unemployment, and the personnel of the National Bureau of Economic Research, proposals for coöperation have been cordially responded to by experts connected with the Bureau of Railway Economics, the Russell Sage Foundation, the Harvard Committee on Economic Research, the New School for Social Research, and the Pennsylvania State Industrial Board. The extensive knowledge and wide experience of all of these organizations and individuals can be promptly focussed upon the problem. It is the promptness and definiteness of past achievements, the eagerness with which the public has reached out for authoritative information presented under the auspices of impartial bodies, and the prospect of future coöperation from these bodies which justify belief that a basis for wise practical action can be laid within so short a time as six months.

EDWARD EYRE HUNT

## PROCEEDINGS OF THE EIGHTY-THIRD ANNUAL MEETING OF THE AMERICAN STATISTICAL ASSOCIATION

PITTSBURGH, PA., DECEMBER 27-29, 1921

### PROGRAM

TUESDAY, DECEMBER 27

10.00 A. M.—First Session

*Topic:* Agricultural Statistics

*Paper:* The Problems of a Census of Agriculture,

William L. Austin, Bureau of the Census, Washington, D. C.

*Discussion:*

E. A. Goldenweiser, Federal Reserve Board, Washington, D. C.

W. A. Hathaway, American Tel. & Tel. Co., New York City

Nat C. Murray, Department of Agriculture, Washington, D. C.

*Paper:* A Summary of the Results of the 1920 Census of Agriculture,  
Leon E. Truesdell, Bureau of the Census, Washington, D. C.

*Discussion:*

John Lee Coulter, North Dakota Agricultural College, Fargo, N. D.

L. C. Gray, Department of Agriculture, Washington, D. C.

Jesse E. Pope, Statistician and Economist, Washington, D. C.

2.00 P. M.—Second Session

*Topic:* Population and Vital Statistics

*Paper:* Some Results of the 1920 Population Census,  
Joseph A. Hill, Bureau of the Census, Washington, D. C.

*Paper:* The Methods Employed in the Construction of the United States Life  
Tables,

James W. Glover, University of Michigan

*Paper:* Specific Death Rates from Tuberculosis in the United States,  
Edgar Sydenstricker, U. S. Public Health Service, Washington, D. C.

*Discussion:*

William Charles White, M. D., Pittsburgh, Pa.

*Paper:* The Long Time Cycles of Pandemic Influenza,  
Otto R. Eichel, State Department of Health, Albany, N. Y.

8.00 P. M.—Third Session (Joint Meeting with the American Economic Association)

*Presidential Addresses:*

The Economist's Spiral, Jacob H. Hollander, Johns Hopkins University  
Statistics in the Service of Economics, Carroll W. Doten, Massachusetts  
Institute of Technology

10.00 P. M.—Smoker

WEDNESDAY, DECEMBER 28

10.00 A. M.—Fourth Session

*Topic:* Business Research

*Paper:* The Nature and Status of Business Research,  
Leonard P. Ayres, Cleveland Trust Company, Cleveland, Ohio

*Discussion:*

Ernest S. Bradford, New York City

M. C. Rorty, American Tel. & Tel. Co., New York City

Melvin T. Copeland, Harvard University

*Paper:* Graphic Methods Applied to Business,  
Arthur R. Burnet, New York City

*Discussion:*

Earl F. Evans, Graphic Service Expert, Pittsburgh, Pa.

Earle Clark, General Motors Corporation, Detroit, Mich.

S. L. Nicholson, Westinghouse Electric Co., Pittsburgh, Pa.

2.00 P. M.—Fifth Session (Joint Session with American Association for Labor Legislation)

*Topic:* Business Forecasting

*Paper:* Business Cycles and Their Forecast,  
Warren M. Persons, Harvard University

*Discussion:*

Carl Snyder, Federal Reserve Bank of New York

Wesley C. Mitchell, New School for Social Research, New York City

*Paper:* Management and the Business Cycle,

Henry S. Dennison, Dennison Manufacturing Co., Framingham, Mass.

*Discussion:*

Leonard P. Ayres, The Cleveland Trust Co., Cleveland, Ohio

F. L. Lamson, Norwalk Tire and Rubber Co., Norwalk, Conn.

5.00 P. M.—Business Session

Brief meeting for reports of officers and committees and their consideration

THURSDAY, DECEMBER 29

9.00 A. M.—Final Business Session

Election of officers. Discussion of future policies

10.00 A. M.—Sixth Session (Joint Session with American Economic Association and American Association for Labor Legislation)

*Topic:* Industrial Accidents

*Paper:* The Present Status of Workmen's Compensation in the United States,  
E. H. Downey, Harrisburg, Pa.

*Discussion:*

Powers Hapgood, Bureau of Industrial Research, New York City

Carl Hookstadt, U. S. Bureau of Labor Statistics, Washington, D. C.

*Paper:* Statistics of Industrial Accidents,

C. H. Verrill, U. S. Employees Compensation Commission, Washington,  
D. C.

*Discussion:*

A. W. Whitney, National Workmen's Compensation Service Bureau, New  
York City

E. E. Watson, Consulting Actuary, Columbus, Ohio

2.00 P. M.—Seventh Session (Joint Session with American Economic Association)

*Topic:* The National Income

*Paper:* Pareto's Law,

Fred R. Macaulay, National Bureau of Economic Research, New York  
City

*Discussion:*

David Friday, Michigan Agricultural College

William F. Ogburn, Columbia University

*Paper:* The Corporate Surplus as an Element in the National Income,  
Oswald W. Knauth, National Bureau of Economic Research, New York  
City

*Discussion:*

G. P. Watkins, Federal Trade Commission, Washington, D. C.

Allyn A. Young, Harvard University

#### MINUTES OF THE ANNUAL BUSINESS MEETING

President Carroll W. Doten called the meeting to order at 5 p. m., December 28, at the William Penn Hotel, Pittsburgh, Pa.

Reports were submitted as follows:

#### REPORT OF THE SECRETARY FOR 1921

The following report is submitted with respect to the condition of the Association:

Membership, December, 1920.....	988
Additions during 1921:	
New members.....	102
Corporate members.....	2
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Total.....	104
¹ Deductions during 1921.....	146
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Net loss during 1921.....	42
	<hr/>
Membership, December, 1921.....	946
Besides members we have:	
Subscribers, mostly libraries.....	262
Domestic exchanges.....	24
Foreign exchanges.....	73
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Total members, subscribers, and exchanges.....	1,305

The death of the following members has been reported during the year: Holmes Beckwith, Luigi Bodio (Honorary), George W. Brackenridge, Thomas U. Coe, W. B. Cogswell, John E. Clark, Frederick S. Crum, N. Hanabusa (Honorary), Harry H. Pray, R. H. Snead, Walter E. Weyl.

Four numbers of the PUBLICATIONS have been issued during 1921, completing

¹ Above deductions during 1921 are distributed as follows:

Deaths reported during 1921.....	11
Resignations during 1921:	
Members.....	78
Corporate members.....	2
Dropped because unable to locate.....	18
Dropped for non-payment of dues.....	37
	<hr/>

Volume XVII, a total of 1,050 pages for the two years 1920-21. The editor has prepared a comprehensive index to the entire volume, which is being issued with the December number.

Four special meetings of the Association have been held in New York City during the year, with an average attendance of over 100 members and guests. A fifth meeting was held in Washington, with an attendance of 45.

Respectfully submitted,

ROBERT E. CHADDOCK, *Secretary*

#### REPORT OF THE TREASURER FOR 1921

##### *Receipts*

Membership dues' . . . . .	\$4,521.48
Sales, single copies of the QUARTERLY . . . . .	156.29
Sales, Memorial Volume:	
Sales direct to members . . . . .	\$220.50
Sales through the Macmillan Company . . . . .	87.98
Total . . . . .	308.48
Subscriptions to the QUARTERLY . . . . .	1,077.79
Dividends on B. & A. Stock . . . . .	148.75
Balance on hand at first of year . . . . .	223.56
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	\$6,436.35

##### *Expenditures*

##### Printing:

##### Printing QUARTERLY PUBLICATIONS:

Balance due for September, 1920 . . . . .	\$500.00
December, 1920 . . . . .	1,063.95
March, 1921 . . . . .	1,013.04
June, 1921 . . . . .	992.49
September, 1921 . . . . .	398.19
(\$500 still due on Sept. issue)	
Authors' Reprints for June and Sept. issues . . . . .	85.97

Total . . . . .	\$4,053.64
Other printing, stationery, etc. . . . .	362.69

Total printing . . . . .	\$4,416.33
Postage . . . . .	208.21
Salaries . . . . .	1,025.35
Payments on Memorial Volume Loan of \$800 . . . . .	400.00
Interest on Memorial Volume Loan . . . . .	33.60
Expenses, miscellaneous . . . . .	199.19
Balance on hand December 20, 1921 . . . . .	153.67
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	\$6,436.35

## REPORT ON MEMORIAL VOLUME FUND 1921

*Receipts*

Sales to members at special rate (\$3.50).....	\$220.50	
Sales through the Macmillan Company.....	87.98	
Deficit for 1920 and 1921, paid out of general funds.....	480.19	
	<hr/>	\$788.67

*Expenditures*

Deficit for year 1920.....	\$338.89	
Express.....	4.68	
Printing circulars.....	11.50	
Payments on \$800 loan.....	400.00	
Interest on loan.....	33.60	
	<hr/>	\$788.67

*Payable*

The Association has a \$400 loan on account of the Memorial Volume still outstanding at the Corn Exchange Bank, New York City. It owes the Rumford Press \$500 for printing, due on the September issue.

*Assets*

Seventeen shares of Boston and Albany R. R. stock. Unsold copies of the Memorial Volume, approximately 440.

ROBERT E. CHADDOCK, *Treasurer*

## REPORT OF THE AUDITING COMMITTEE

We have audited the accounts of the treasurer of the American Statistical Association as of the close of business December 17, 1921, and find all disbursements properly accounted for by cancelled checks and vouchers. We have also verified the treasurer's record of receipts and disbursements, as shown by his books, with the cash balance on hand, as shown by the bank statement, and find them in agreement.

As is customary, we have made no audit of accounts payable and receivable.

DONALD R. BELCHER,  
B. F. YOUNG,  
*Auditing Committee*

The reports of the secretary-treasurer and the auditors were approved and ordered printed in the proceedings.

## REPORT OF THE EDITOR OF THE QUARTERLY PUBLICATIONS

The editor reported that the December issue of the QUARTERLY PUBLICATIONS marked the completion of Volume XVII, covering two years under the direction of the present editorial board. During this time 106 articles and featured notes were submitted for publication, 76 of which were published. The volume contains 49 articles, 27 featured notes, 32 short notes, and 56 reviews, comprising 1,050 pages and representing 107 different contributors. A single issue, there-

fore, contained approximately 6 articles, 3 featured notes, 4 short notes, and 7 reviews, making 130 pages. The new policy of having a section on featured notes, of including more miscellaneous notes, of developing the reviews, and of publishing a list of contemporary literature seems to have met with general approval. The custom of furnishing 50 reprints to authors of articles and featured notes has also been instituted.

During 1921 bids for publishing the QUARTERLY PUBLICATIONS were sought from various publishers. The Rumford Press, the present publishers, also made a new bid. All bids were submitted to the Board (consisting of president, vice-presidents, and counsellors), which voted to continue publishing with the Rumford Press.

The editor also reported the vote cast on changing the name of the QUARTERLY PUBLICATIONS.

#### CHANGE OF NAME OF THE PUBLICATIONS

The report of the editor was approved, and on motion, duly seconded, it was voted to change the name of the QUARTERLY PUBLICATIONS to read "Journal of the American Statistical Association," beginning with the issue of March, 1922, the serial and volume numbering to remain continuous.

#### REPORTS OF COMMITTEES

##### THE JOINT ADVISORY COMMITTEE ON THE CENSUS

The report of the Joint Advisory Committee appears on pp 82-98 of this issue. It was approved, and the committee was continued for another year. The representatives of the Statistical Association on the Joint Committee were requested to submit at the next Annual Meeting a plan for a permanent organization of this committee.

##### COMMITTEE ON FELLOWS

Carroll W. Doten, Chairman, reported for record the agreement of the committee in electing the following members as Fellows of the Association, as provided in Article V of the Constitution: C. J. Bullock, M. T. Copeland, C. B. Davenport, E. E. Day, E. F. Gay, E. A. Goldenweiser, J. H. Gray, L. H. Haney, L. N. Robinson, Elihu Root, M. C. Rorty.

##### JOINT COMMITTEE ON STANDARDS FOR GRAPHICS

The representative of the American Statistical Association on this committee, Arthur R. Burnet, made the following report:

The growth of the arts, industry, and business has developed a need for the better presentation of information—numerical facts and other data—by means of charts and diagrams. Up to the present time this need has been met rather indifferently by the individual efforts of persons engaged in the arts, industry, and business without a comprehensive knowledge of good methods. The result has been the use of many defective graphic forms which have rendered ineffective a great deal of valuable data. This condition warrants the making of a consistent and thorough study of the entire subject of graphic presentation of facts in order



to determine how far it is possible to establish standardized methods. The Joint Committee on Standards for Graphics has been organized to make such a study and to submit recommendations.

The committee, which is composed of representatives from the American Society of Mechanical Engineers, the Taylor Society, the Society of Industrial Engineers, and the American Statistical Association, does not represent all the groups interested in the subject; it is intended only to act as a clearing house or a means of accumulating from every source information bearing on the subject.

An invitation is therefore extended to all societies, associations, organizations, business concerns, and individuals to submit constructive comments and actual examples to the secretary. In due course it is hoped from this material to filter out the fundamentals, and to draft a code that will be simple, comprehensive, and so universal in character that statisticians, engineers, executives, accountants, teachers, and others may employ a common understandable language when speaking through the medium of graphics.

The committee realizes that the difficulties involved are great, but it hopes that the collective experience of the members together with the full coöperation of all interested persons *will enable this result to be accomplished.*

J. J. SWANN, *Chairman,*

Representing the American Society of Mechanical Engineers

CARL G. BARTH,

Representing the Taylor Society

C. E. KNOEPPPEL,

Representing the Society of Industrial Engineers

A. R. BURNET, *Secretary,*

Representing the American Statistical Association

Address of the secretary: 11 Jackson Street, New Rochelle, New York

#### COMMITTEE ON INSTITUTIONAL STATISTICS

The chairman, Horatio M. Pollock, statistician of the State Hospital Commission of New York, presented the following report:

Two meetings of the committee were held in New York City, one an all-day session on April 21, the other a half-day session on October 19. Four members of the committee were present at each meeting.

As committees of other organizations have been working for some time on the standardization of statistics in institutions for the insane, feeble-minded, and delinquents, this committee deemed it best to devote its attention to the problem of uniform statistics in institutions for dependent children. The need of standardization in this field is very great, as each state is now acting independently in compiling data concerning children in institutions, and in most cases the work is done inadequately.

After canvassing the situation and finding no satisfactory system in operation for collecting data in this field, the committee decided to undertake the preparation of a general statistical scheme for these institutions. Schedule cards for first admissions, readmissions, discharges, and deaths were prepared, and sub-

committees were appointed to outline a standard set of tabular forms, to prepare a booklet of instructions, and to devise ways and means of introducing the new system. The work of these sub-committees is not yet complete.

The following notes on the introduction of the standardized system have been submitted by the sub-committee last named:

The most feasible method appears to be to work in each state through a central official state board, such as the State Board of Charities in New York state. These agencies in many cases have more or less definite jurisdiction over certain of the children's institutions. In these institutions the standard record forms could be introduced, and their adoption could be recommended in any other institution with which the state organization was in touch.

For the effective introduction of such a system in the several states, it would doubtless be necessary to have some general agency interested in furthering the adoption of the system. For such agency four bodies might be considered: The Federal Children's Bureau or the Bureau of the Census, among the official federal agencies, and among private agencies, the Committee on Statistics of the Children's Section of the National Conference of Social Work, or the present Committee on Institutional Statistics of the American Statistical Association. The field seems to be one in which the Children's Bureau is especially interested. The work is urgently needed, and the function of standardizing records might properly fall to that bureau which is especially charged with studying and reporting on dependent and delinquent children. From the point of view of the Children's Bureau, if it were to attempt to introduce a system of standard statistical records, the first step would seem to be the calling together of a conference to which representatives of state boards and other agencies especially interested in statistics of children would be invited, including the Committee on Institutional Statistics for Children and the Sub-committee on Statistics of the Children's Section of the National Conference for Social Work. The scope of the conference need not be limited to the subject of statistical records; addresses on the subject of standardizing statistical records would be especially appropriate. A special committee could be appointed to consider the question of statistical forms, and the recommendations of the Committee on Institutional Statistics for Children could be laid before it, together with recommendations from other committees, if they desired to make them. It would seem desirable to have ready for the consideration of such a conference not only standard forms for children in orphanages but also for other fields of work for dependent and delinquent children.

With regard to approaching the other agencies suggested on the subject of introducing a system of records in children's institutions, it seems advisable to wait until the committee could lay before them its final recommendations.

If the committee is continued another year it will be able to present to the Association at the next Annual Meeting a fairly complete outline of a system of statistics for institutions for dependent children, and will have definite advice concerning the means that may be taken to introduce the system in case it meets with the approval of the Association.

The report was approved and the committee was continued for the coming year.

## COMMITTEE ON NOMINATIONS

The report of the Nominating Committee, consisting of Walter F. Willcox, Chairman, L. F. Hayford, and C. E. Baldwin, was presented for final action. The secretary was instructed to cast one ballot for the nominations as presented. The following officers for the year 1922 were declared elected: President, W. S. Rossiter; Vice-Presidents, L. I. Dublin, E. W. Kemmerer, M. C. Rorty; Counsellors, C. W. Doten, W. C. Mitchell, W. F. Willcox; Secretary-Treasurer, R. E. Chaddock; Librarian, H. L. Wheeler; Editor, W. F. Ogburn.

The Board of the Statistical Association, in September, 1920, appointed George H. Van Buren as delegate to the third decennial session of the International Commission for the Revision of the International Classification of Causes of Sickness and Death, held at Paris, October 11-15, 1920. Mr. Van Buren presented his final report of the work done at the sessions of this commission. On motion of C. E. Baldwin, the report was received and filed.

The Association voted to appropriate \$600, as provided last year, for assistance for the secretary-treasurer.

A resolution was offered and approved expressing the attitude of the Association toward the possible suspension of the publication of the *Market Reporter* by the Department of Agriculture and the *Monthly Labor Review* by the Department of Labor as follows:

*Resolved*, that the President be requested to convey to the proper authorities the unanimous request of the American Statistical Association, expressed at its Annual Meeting, that the publication of the *Market Reporter*, or a periodical containing similar material, and of the *Monthly Labor Review* be continued.

*Resolved*, that the Association express its sense of irreparable loss if these publications be discontinued in such important fields of statistical record and analysis.

Mr. R. D. Cahn, connected with the State Department of Labor of Illinois, urged the Association to provide a Committee on the Measurement of Employment. He called attention to the incomparable character of the published results and to the duplication of effort on the part of those agencies which seek employment data for various purposes in his state. Record forms for the collection of such data which would prove acceptable to various agencies, the methods of procedure in gathering and checking the data, and the methods of analysis and presentation of the results need to be thoroughly reviewed by a committee of a scientific association.

By a vote of the Association the Board of Directors was instructed to consider the situation and to provide a committee to deal with the matter.

ROBERT E. CHADDOCK, *Secretary*

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MISCELLANEOUS NOTES

**A New Name—The Journal of the American Statistical Association.** At the Eighty-third Annual Meeting of the American Statistical Association it was voted to change the name of our journal from the QUARTERLY PUBLICATION OF THE AMERICAN STATISTICAL ASSOCIATION to the JOURNAL OF THE AMERICAN